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THE FATS AND OILS SITUATION

CONSUMPTION OF OILS BY THE DRYING INDUSTRIES IN THE UNITED STATES, 1931 TO DATE

THE GENERAL FATS AND OILS SITUATION

Total production of domestic edible vegetable oils during the 1937-38 season will be materially larger than last year. The indicated supply of cottonseed oil for the season 1937-38 is about one-third larger than in 1936-37, the largest since 1931-32 and 16 percent larger than the 5-year average 1928-39 to 1932-33. Stocks on hand at the beginning of the season 1937-38 were larger than a year earlier and larger than the 5-year average.

Soybean oil production will probably be from 15 to 20 percent larger than the production from the 1936 crop of soybeans, and there may be a slight increase in the total production of peanut, corn, and other minor vegetable oils.

The production of lard and other edible animal fats (tallow, oleo oil, and stearine) will probably be lower in 1937-38 than in the preceding year. It is believed, however, that the increased production of vegetable oils will more than balance the reduction in animal oils.

FLAXSEED SITUATION

World supplies of seed on hand now are moderate, and the prospect is for only a moderate supply next year, but the stock of linseed oil on hand in the United States is relatively high. Competition of other drying oils with linseed oil increased up to 1936, but has shown a reversed trend during the past 6 months. The present business recession may weaken the demand for all drying oils in the next few months.

World supply on August 1, 1937

On the basis of present information concerning stocks of seed in the four principal producing countries and estimates of the 1937 crop in the United States and Canada, it appears that the supply in these countries on August 1 was possibly 6 percent smaller than the small supply a year earlier. A September 9 report from the Agricultural Attache in Argentina, reports an exportable surplus on August 1 of 17,613,000 bushels or 28 percent less than on the same date a year ago. Apparently the short United States crop of 1936 and the improvement in building activity in consuming countries in the spring of 1937 compared with recent years were the principal factors causing Argentina to dispose of an unusually large percentage of the 1936-37 crop by August 1.

A 1937 flaxseed crop in the United States of 7,640,000 bushels is indicated by September 1 condition. This compares with 5,908,000 bushels harvested in 1936 and with the 5-year average (1928-32) of 15,996,000 bushels. July 1 commercial stocks are estimated at 3,339,000 bushels, the largest since 1929. The official first estimate of the 1937 Canadian crop is 741,000 bushels which is 59 percent less than the 1936 crop and 76 percent less than the 1928-32 average. Supplies of Indian seed available for export on August 1 are believed to have been about 30 percent larger than on the same date a year earlier.

The only official information that bears on the size of the next Argentine crop is the first official estimate of the acreage planted. This estimate for 1937-38 is 6,301,000 acres, which is about 15 percent less than the acreage of the crop now moving to market and less than the 1928-32 average.

World demand

The total volume of building activity in the four principal linseed oil consuming countries averaged about 3 percent higher in the first 7 months of 1937 than in the same months of 1936.

The volume of building activity in the United States in the 9 months January - August 1937, has averaged 8 percent higher than during the same months of 1936. On the other hand, building activity to date in 1937 has been lower than in 1936 in all three of the principal European linseed oil consuming countries (Great Britain, Germany, and France).

Table 2.- Percentage consumption of fats and oils in the drying industries in the United States, 1931-37

Year	Linseed oil	Tung oil	Perilla oil	Fish oil	Soybean oil	Other	Total
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Average -							
1931-33	73	17	3	4	3	1/	100
1934-36	64	17	9	6	2	2	100
1931	77	15	2	4	2	1/	100
1932	75	16	2	4	3	1/	100
1933	69	19	5	4	3	1/	100
1934	69	20	4	4	2	1	100
1935	65	18	8	6	2	1	100
1936	61	15	13	7	2	1	100
1936- Jan.-June	(59)	(16)	(15)	(5)	(2)	(3)	(100)
1937- Jan.-June	(71)	(17)	(5)	(5)	(1)	(1)	(100)

The drying industries include paint and varnish, linoleum, oilcloth, and printing ink. During the past 6 years paint and varnish has averaged about 86 percent of the total.

1/ Less than 1 percent.

Table 1.- Estimated consumption of fats and oils in the drying industries in the United States, 1931-37

Year	Linseed oil 1/	Tung oil 1/	Perilla oil 1/	Fish oil	Soybean oil	Other 2/	Total
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
Average -							
1931-33	400	89	16	23	12	4	544
1934-36	450	123	63	40	16	11	703
1931	471	90	11	27	9	3	611
1932	354	74	11	20	12	4	475
1933	376	102	25	22	14	5	544
1934	409	117	24	25	13	7	595
1935	465	129	60	43	18	8	723
1936	477	121	105	52	17	18	790
Jan.-June 3/	(234)	(62)	(57)	(21)	(9)	(12)	(395)
1937							
Jan.-June 3/	(333)	(78)	(23)	(24)	(7)	(4)	(469)

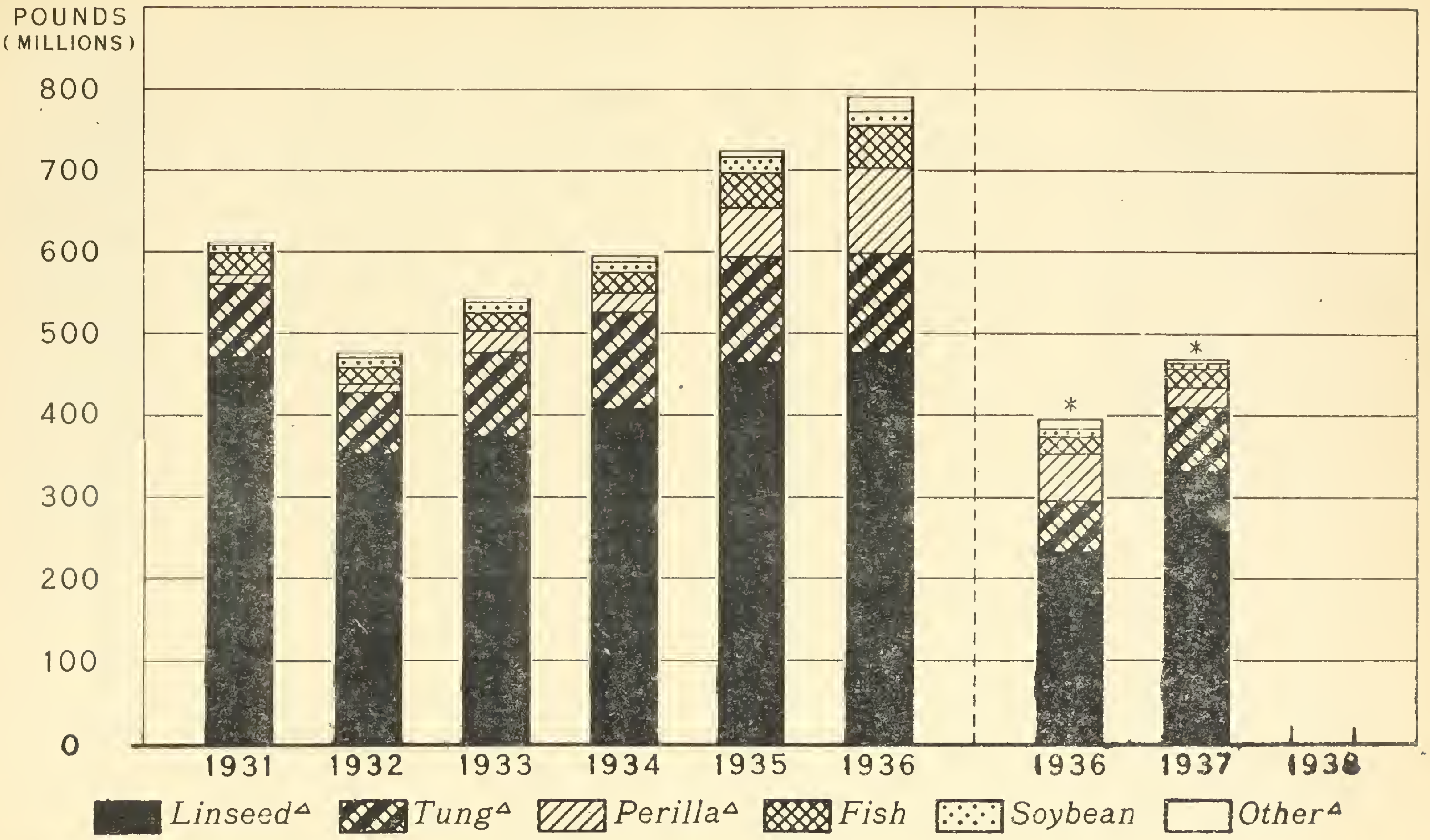
The drying industries include paint and varnish, linoleum, oilcloth, and printing ink. During the past 6 years paint and varnish have averaged about 86 percent of the total.

1/ Since drying oils are used directly as well as in factory consumption, these figures represent total domestic disappearance excluding small quantities reported by Bureau of the Census as used in soap, shortenings, and miscellaneous products.

2/ Includes factory consumption of castor and miscellaneous oils, in 1931-33. In 1934, 3,000,000 pounds each castor and sunflower oils, and 1,000,000 pounds miscellaneous oils. In 1935, 4,000,000 pounds castor oil, 2,000,000 pounds oiticica oil, and 2,000,000 pounds miscellaneous oils. In 1936, 5,000,000 pounds castor oil, 2,000,000 pounds oiticica oil, and 11,000,000 pounds miscellaneous oils, probably largely hempseed.

3/ These data are rough estimates based largely on the relation of consumption in drying industries to total disappearance, 1931-36.

CONSUMPTION OF OILS BY THE DRYING INDUSTRIES IN THE UNITED STATES, 1931 TO DATE



*ESTIMATES FOR SIX MONTHS, JANUARY-JUNE

△SINCE DRYING OILS ARE USED DIRECTLY AS WELL AS IN FACTORY CONSUMPTION, THESE FIGURES REPRESENT TOTAL DOMESTIC DISAPPEARANCE EXCLUDING THE SMALL QUANTITIES REPORTED BY THE BUREAU OF THE CENSUS AS USED IN SOAP, SHORTENINGS, AND MISCELLANEOUS PRODUCTS

U. S. DEPARTMENT OF AGRICULTURE NEG. 32740 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 1

CONSUMPTION OF OILS BY THE DRYING INDUSTRIES IN THE UNITED STATES, 1931 TO DATE

The industries generally referred to as "drying industries" include paint and varnish, linoleum, oilcloth, and printing ink. During the past 6 years paint and varnish have represented an average of about 86 percent of the total utilization of oils in the drying industries.

Consumption of fats and oils by the drying industries in the United States amounted to 475 million pounds in the calendar year 1932 which is the lowest total since 1918. Since the low point of 1932 consumption has increased steadily, reaching a total of 790 million pounds in 1936, and an estimated consumption of 469 million pounds in the first 6 months of 1937.

During the 6 years 1931-36, linseed oil contributed a steadily declining percentage to the total drying oils used in the United States, dropping from 77 percent in 1931 to 61 percent in 1936. This percentage decline in the use of linseed oil was balanced by an increased utilization of perilla and fish oils with slight additions in minor oils such as hempseed, oiticica, and castor oils. Perilla oil contributed 2 percent to the total in 1931 and 13 percent in 1936, while fish oil increased from 4 percent in 1931 to 7 percent in 1936. Other oils increased about 2 percent.

Rough estimates of utilization of oils by the drying industries during the first half of 1937 (computed on relationship of consumption in drying industries to total disappearance, 1931-36), indicate a reverse in the trends in consumption of linseed and perilla oils.

The estimated use of linseed oil in the drying industries January to June 1937 was about 42 percent larger than the estimated use during the same months of 1936, while the use of perilla oil decreased by almost 60 percent. Prices of linseed oil during this period averaged 10.3 cents per pound compared with an average of 9.5 cents during the calendar year 1936, and prices of perilla oil averaged 11.6 cents compared with 8.8 cents per pound in 1936.

Linseed oil production in the United States, from domestic and imported seed, for the season 1936-37 was larger than for any other season since since 1929-30. Stocks of linseed oil June 30, 1937, amounted to 142.4 million pounds compared with 140.7 million pounds on the same date in 1936. These stocks compare with an average end-of-the-season stocks of 102.9 million pounds for the crop seasons 1930-31 to 1934-35, and 141.2 million pounds average at the end of the seasons 1925-26 to 1929-30.

Linseed, perilla, and soybean oils

During the 6 years (1931-36) when the percentage consumption of linseed oil was steadily declining and the percentage consumption of perilla oil was increasing rapidly the price of linseed oil was trending upward, and the average weighted price of perilla and soybean oils combined averaged lower during each of the years under consideration than the price of linseed oil. During the first half of 1937, when the utilization of perilla and linseed oils showed sharply reversed trends, perilla oil was higher in price than linseed oil because of the excise tax of 4-1/2 cents per pound on perilla oil and 2 cents per pound on perilla seed, effective August 21, 1936. The full force of this tax was not immediately reflected in the price because a large volume of perilla oil, 118 million pounds, was imported in 1936 prior to the imposition of the tax, and stocks were accumulated to draw from after the import tax became effective.

Imports of perilla oil were completely stopped for the succeeding 6 months but were resumed again during the second quarter of 1937. About 24 million pounds have been imported during the first 7 months of 1937, compared with 99 million pounds in the same months of 1936 and 49 million, 24 million, and 17 million pounds in the same respective months of 1935, 1934, and 1933. During the past 3 months, July to September, perilla oil prices have continued to rise, but soybean oil prices have declined enough in the same period so that the weighted combined price is almost on a level with linseed oil prices.

The first official estimate for 1937 perilla seed production in Manchuria is 273 million pounds compared with 324 million pounds last year. Military operations in the Far East may not directly affect exports of oil and oilseeds from Manchuria, except as all exports may be retarded inasmuch as available transportation facilities may be reduced and prices in foreign markets may increase because of higher freight and insurance rates.

Since soybean oil is a semi-drying oil, its use in paints is feasible only in connection with oils that dry more rapidly. Extremely high prices or short supplies of tung oil and perilla oil may tend to discourage the use of soybean oil in the drying industries, except at lower prices.

Tung oil

During the 6 years 1931-36, tung oil contributed an average of 17 percent to the total drying oils used, the two low years being 15 percent in 1931 and the same in 1936. The largest percentage consumption was 20 percent in 1934 following heavy imports and low prices in 1933. During the 6 years under discussion the price of tung oil averaged 7.4 cents in the years 1931-34, and 16.5 cents in 1935 and 1936. The price of tung oil has jumped from 12.9 cents in July 1937 to a nominal average quoted price of 21.2 cents in September, because of the Sino-Japanese situation. Supplies on hand in this country, however, are fairly large at the present time. Imports for the 11 months, October 1936 through August 1937, totaled 158 million pounds compared with 135 million pounds a year earlier. Of this amount, 42 million pounds came in during July and August 1937. Stocks were reported at 44 million pounds at the end of June 1937. Since tung oil can be stored for a considerable time without deterioration large stocks can be accumulated without fear of loss, but it is probable that supplies now on hand in the United States are not large enough to meet average requirements for more than 6 to 9 months.

The Chinese tung oil areas are for the most part located in the Yangtze River Basin, which is south of the areas involved in the present disturbance, but exports of tung oil from China undoubtedly will be affected by the military operations as long as hostilities continue. We have no reports on the size of the new crop which is ripening now and should be crushed beginning in December or January.

Fish oil

The 1934 excise tax of 3 cents per pound on fish oil applies only to imported oil, and appears to discourage imports and encourage domestic production. Production under the American flag is reported as about 267 million pounds in 1936 with small net exports, compared with production of 64 million pounds in 1931, and net imports of 15 million pounds in the same year. The 1937 season is not yet far enough advanced to estimate probable oil production, although reports to date have been somewhat discouraging.

The volume of fish oils used for drying purposes in 1936 was more than double the amount so used in 1932, and the percentage contributed to the total use of drying oil jumped from 4 percent to 7 percent in the same period (see table 2). With the technical advancement in methods of refining, deodorizing, and otherwise processing fish oils, this trend is likely to continue even in the face of rising prices for fish oils.

Price relationships

Present price relationships between linseed oil, tung oil, perilla oil, soybean oil, and fish oils will tend to favor linseed oil as long as the new price relationships are maintained.

Oiticica oil

For a brief discussion of oiticica oil - a comparatively new oil - see FOS-3, May 1937, p. 19. Imports in 1936 amounted to only about 3 million pounds, and about 2 million pounds have been imported during the first half of 1937. Since 1935, when prices were first quoted, oiticica oil has been consistently lower in price than tung oil. As there is no excise tax on oiticica oil and it is free of duty, its increased use seems probable.

Hempseed oil

The excise tax of 4-1/2 cents per pound, together with a duty of 1-1/2 cents per pound on hempseed oil, and a tax of 2 cents per pound on hempseed, appears to be completely effective in barring imports as none have been reported since August 1936. Stocks of hempseed oil, amounting to more than 8 million pounds at the end of the first quarter of 1936, were reduced to 120 thousand pounds by the end of June 1937. Imported hempseed oil is therefore, for the present time at least, out of the drying industry picture.

Paints

It seems evident that considerable shifts are and will be taking place in paint materials. Many countries are making a great effort to produce synthetic substitutes for linseed oil and to increase the production of other drying oils. During the past 10 years the finishing of automobiles has been revolutionized. The first automobiles were finished with enamel paint, then Duco, a nitro-cellulose lacquer containing practically no oil, superseded the enamel paints. In recent years enamels and lacquers made from synthetic resin have been used to a considerable extent. In addition to being used on automobiles, these finishes are used on refrigerators and outdoor metal equipment needing a durable coating. So-called metallic paints are made with an aluminum paste or powder used with synthetic resin or nitro-cellulose lacquers and enamels. The percentage of oil used in them is far smaller than is used in ordinary oil paints.

There has been a material increase in the volume of manufacture of casein paints and other water paints in the past few years. These paints use practically no oil. Up to the present time these finishes made without oil constitute only a small percentage of the total paint and varnish finishes, but it is believed that their use is making some inroads on the consumption of oil finishes.

Table 3.-Price per pound of specified drying oils, 1931-37

Year	Linseed oil raw, Minn.	Tung oil, drums, N. Y. 1/	Perilla oil drums, N. Y.	Menhaden oil, crude, f.o.b. Balto.	Soybean oil, crude, f.o.b. mills	Oiticica oil, N.Y.
	Cents	Cents	Cents	Cents	Cents	Cents
Average-						
1931-33	7.3	6.8	6.9	2.1	4.7	
1934-36	9.1	14.0	8.7	3.6	7.2	
1931	7.8	7.4	8.1	2.7	5.5	
1932	5.7	6.3	4.9	1.9	3.1	
1933	8.5	6.8	7.8	1.8	5.4	
1934	9.0	8.9	9.0	2.6	6.0	
1935	8.8	17.0	8.2	4.0	8.1	2/16.5
1936	9.5	16.1	8.8	4.3	7.5	12.6
Jan.-June	9.2	17.1	7.5	4.6	6.8	13.3
July	9.8	18.9	9.7	3.7n	7.9	14.8
Aug.	10.1	16.5	9.8	3.6n	8.0	13.2
Sept.	9.9	14.4	9.9	3.6n	8.2	11.6
1937						
Jan.-June	10.3	14.6	11.6	5.5	9.4	11.7
July	10.5	12.9	11.6	5.3n	7.6	11.0
Aug.	10.6	14.3n	12.1	5.3n	6.5	12.5
Sept.	10.4	21.2n	13.6	4.9n	6.2	16.1

1/ Beginning August 22, 1936, quoted as Atlantic Coast. 2/ Average for 8 months

Compiled from the Oil, Paint, and Drug Reporter, except soybean oil for July to September 1937, which is from the National Provisioner.

Table 4.- Price per pound of selected fats and oils, July-September, 1936 and 1937

Fat or oil	1936			1937		
	July	Aug.	Sept.	July	Aug.	Sept.
	Cents	Cents	Cents	Cents	Cents	Cents
Domestic prices-						
Butter, 92°, N.Y.	33.6	35.6	35.0	31.6	32.8	35.0
Oleomargarine, nut, Chicago	11.2	11.9	12.5	12.5	12.2	11.8
Lard, prime steam, Chicago	11.0	12.1	11.7	12.2n	11.3n	11.0
Lard refined, Chicago	12.1	12.8	12.5	13.6	13.0	13.0
Lard compounds, Chicago	12.0	12.7	12.8	13.2	12.2	11.0
Coconut oil, edible, N. Y.	6.2	6.9	7.9	7.6	7.1	6.6
Cottonseed oil, crude, f.o.b. S. E. mills	8.7	8.9	8.9	8.0n	7.0n	6.2n
Cottonseed oil, p.s.y., N.Y.	9.8	10.1	10.3	9.2	8.0	
Soybean oil, refined, N. Y.	10.0	10.2	10.2	11.3	10.4	10.0
Peanut oil, dom. refined, N.Y.	12.5	12.5n	12.5n	12.2n	11.8n	11.0n
Rape oil, refined, N. Y.	8.5	8.6	8.9	12.8	12.9	12.7
Oleo oil, No. 1, N.Y.	9.4	10.2	11.1	13.0	12.9	13.0
Oleostearine, barrels, N.Y.	9.0	10.2	10.2	9.7	9.6	8.9
Corn oil, refined, N. Y.	11.8	12.6	12.3	10.9	10.9	10.3
Olive oil, edible, N.Y.	22.7	25.7	29.2n	32.0n	32.0n	32.0n
Sunflower oil, refined, N.Y.	9.9	10.6	11.1n	-	-	-
Teaseed oil, crude, N.Y.	9.4	12.3	13.4	9.4	9.4	9.4
Coconut oil, crude, Pac. Coast	4.3	4.6	5.5	5.1	4.5	4.2n
Tallow, inedible, Chicago	5.6	6.0	6.7	8.2	7.5	6.6
Grease, house, N.Y.	5.3	5.4	6.1	8.0	7.6	6.8
Palm oil, crude, N.Y.	4.4	4.7	5.0	5.7	5.3	4.8
Olive oil foots, barrels, N.Y.	8.2	9.0	9.3	11.2n	11.1n	10.8n
Palm-kernel oil, denatured, N.Y.	4.2n	4.8n	5.0n	5.5	5.3	4.8n
Babassu oil, tanks, N.Y. 1/	7.1	7.5	8.2	8.4	8.2	7.6
Sardine oil, tanks, Pac. Coast	4.0n	4.2n	4.4n	5.9n	5.3	4.8n
Linseed oil, raw, Minn.	9.8	10.1	9.9	10.5	10.6	10.4
Tung oil, drums, Atlantic Coast	18.9	16.5	14.4	12.9	14.3n	21.2n
Perilla oil, drums, N.Y.	9.7	9.8	9.9	11.6	12.1	13.6n
Soybean oil, crude, f.o.b. mills	7.9	8.0	8.2	7.6	6.5	6.2
Menhaden oil, crude, f.o.b. Balto.	3.7n	3.6n	3.6n	5.3n	5.3n	4.9n
Hempseed oil, crude, N.Y.	8.6	9.5	9.6	-	-	-
Foreign prices- 2/						
Cotton oil, crude, naked, Hull	6.0	6.7	6.5	6.2	6.0	5.2
Copra, Resecada, Philippines	2.0	2.3	2.9	2.5	3/2.6	
Palm-kernel oil, crude, Hull	4.9	5.2	5.6	5.7	5.5	5.1
Whale oil, crude, No.1, Rotterdam	4.2	4.3	4.2	4.7	4.6	4.3
Tallow, beef, fair-fine, London	5.2	5.4	5.4	5.8	5.7	5.5
Linseed oil, naked, Hull	6.1	6.0	5.8	6.8	6.8	6.6

1/ Beginning February 1937, prices are futures. 2/ Converted to U.S. cents per pound at current monthly rates of exchange. Prices for September 1937 are preliminary. 3/ Preliminary, average for 3 weeks.

For average price, January to June, see FOS-6.

Table 5.- Oleomargarine: Production and materials used in manufacture, United States, July and August, 1936 and 1937

Item	1936 1/		1937 1/	
	July	Aug.	July	Aug.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
Oleo oil	1,601	1,583	830	754
Oleostearine	254	297	286	292
Lard, neutral	137	152	97	102
Oleo stock	120	144	96	86
Total animal	2,112	2,176	1,309	1,234
Cottonseed oil	7,612	7,608	9,281	10,027
Soybean oil	1,278	767	1,977	2,742
Peanut oil	324	322	171	137
Corn oil	203	179	134	236
Total domestic vegetable	9,417	8,876	11,563	13,142
Coconut oil	9,554	11,749	6,568	7,714
Babassu oil	1,289	1,985	1,123	523
Palm-kernel oil	269	275	971	986
Palm oil	125	62	97	13
Sesame oil	4	4	-	-
Total foreign vegetable	11,241	14,075	8,759	9,236
Total fats and oils	22,770	25,127	21,631	23,612
Milk	5,258	5,847	4,743	5,254
Salt and other miscellaneous	1,530	1,614	1,259	1,325
Production of oleomargarine	27,695	30,351	26,215	28,679

1/ Preliminary.

Compiled and computed from reports of the Commissioner of Internal Revenue.

For average, January to June, see FOS-6.